

1. What is the basis for trade in livestock products within Australia and internationally?

Honey bees are defined as livestock under the *Livestock Act*. Market access, disease surveillance and control are regulated under the *Livestock Act*. The Primary Industries Ministerial Council (PIMC) in May 2002 established the principles for cross border implementation of restrictions of livestock, disease control programs, surveillance and emergency disease response (PIMC meeting number 1 Resolution 1.12 on 2nd May 2002). A similar convention is currently being developed for plants and plant products. A dispute resolution process is also being developed.

(http://www.mincos.gov.au/_data/assets/pdf_file/0005/316085/pimc_res_01.pdf)

In summary, restrictions for the movement of livestock should be based on World Trade Organisation (WTO) Sanitary and Phytosanitary (SPS) measures which are described (www.wto.org) and under the Animal Health Code (www.oie.int). Disease surveillance programs should be based on nationally (or at least bilaterally) agreed standards and rules. Restrictions for trade can be applied to protect the health of animals but must not be a disguised barrier to trade to inhibit competition. Any restrictions must be science based and risk based. In addition, cost benefit analysis and beneficiary analysis techniques are increasingly being adopted nationally for decisions related to animal health. Conditions for movement apply zoning, compartments, property status, market assurance programs and pre-entry testing.

While there is no evidence based on the lack of reports of suspected disease by beekeepers for laboratory examination to indicate that the Northern Territory is infected with the major diseases and pests of bees (American Foulbrood (AFB), European Foulbrood (EFB), Small Hive Beetle (SHB) and Nosema), there is no surveillance data to declare the Northern Territory to be free. With the cooperation of beekeepers a survey over the next 12 months is planned to provide surveillance data to be able to do so. In fact, if challenged, there is no basis to apply any restrictions on the movement of bees, bee products and bee equipment. The department will allocate \$20,000 operational funding over the next 12 months for laboratory testing, Small Hive Beetle traps, sampling materials and protective equipment for staff.

There have been meetings with the Northern Territory Beekeepers Association, with individual beekeepers and national experts on the conduct of the planned surveillance. While currently there are no national standards for the surveillance of the endemic bee diseases, the surveillance plan is consistent with the AUSVETPLAN sampling strategy and was supported by bee disease experts in CSIRO and Western Australia. Approval of the surveillance plan to declare a free area by the national Animal Health Committee will be sought.

Additionally, the Australian Government will soon be introducing legislation to override State legislation if the WTO SPS principles are not applied to domestic trade between States and Territories.

2. Why are package bees being allowed to be imported from the Small Hive Beetle (SHB) Free Area of Western Australia into the Northern Territory from 10th June 2009?

- A Small Hive Beetle Free Area was declared for Western Australia on 12th May 2009.
- There is scientific evidence to support the declaration of a SHB free area of Western Australia (all of WA except the Kimberley's).
- There are additional pre-entry and post-entry biosecurity measures imposed on package bees imported into the Northern Territory to provide additional assurance.
- There is no basis to justify restricting the movement of package bees from the SHB free area of Western Australia.

Conditions for entry are:

- Package bees must originate from the SHB Free Area of Western Australia.
- The apiary must have a negative inspection by an apiary inspector for SHB within the last 30 days
- The apiary must have evidence of a negative test for AFB and EFB within the last 3 months.
- The container with the package bees must not be opened during the passage through the SHB infested area in the Kimberley's.

The conditions of entry are identical to the conditions for the export of package bees from Western Australia to Canada.

3. What is the basis for the WA declaration of a SHB Free Area?

Response to SHB Incursion in Kununurra and south-west region of WA

SHB was first detected in a beehive in an apiary in the Kununurra region in September 2007. Tracing of beehive movements from the Kununurra region detected SHB in two apiaries in the south-west region of Western Australia. Beehives where the beetles were found were destroyed and apiaries were placed into quarantine pending surveillance. Appendix 1 provides more details of the actions relating to SHB within Western Australia and the Northern Territory.

Surveillance in Western Australian Apiaries for SHB

Western Australia has approximately 120 -140 commercial and semi-commercial apiaries located predominantly in the south-west region of the state. Surveillance for SHB was carried out on 150 apiaries in 2006, 150 in 2007 and 80 in 2008 with no detection of SHB other than the apiaries that moved hives from the Kununurra area in September 2007.

Surveillance in south-west region following the SHB incursion

Quarantined apiaries in the south-west region and all apiaries within a 4.5km radius underwent the following surveillance:

- All beehives within the apiary were dismantled and inspected for SHB.
- AJs beetle eater traps were placed in every hive.
- Traps were inspected every 2 weeks in Oct-Nov 2007 and then monitored monthly.
- The last detected beetle was in January 2008.

Other apiaries in the south-west region underwent the following surveillance:

- Surveillance was targeted at apiaries which moved hives regularly.
- 20 % of hives were inspected in the apiary.
- Weak hives, hives on the outside of pallets, and hives used for pollination services were targeted.
- Hives were dismantled and inspected for SHB.
- AJs beetle eater traps were placed in hives with a sampling strategy to detect SHB with 99% confidence at a prevalence of 3.33% (the prevalence of hives infected at the initial incursion).
- The sugar shake method was also used to detect beetles.

4. How does SHB behave in the Kununurra Area?

The Technical Officer Bees and a Horticultural Extension Officer visited the Kununurra area in May 2009. The beetles have been in the Kimberley's for almost 3 years and over 2 wet seasons. The conclusion from beekeepers, melon growers and departmental staff indicate that there are small numbers of SHB that can be managed by monitoring hives for SHB with freezing of infested hives. There is no apparent effect on melon farming. There is no evidence of egg laying in beetles in the commercial hives. It is assumed that the breeding population of SHB is present in the feral hives. Surveillance for SHB in feral populations is currently being planned. It is suggested that low humidity causing desiccation of the SHB eggs causes the low population of beetles.

Following a decision WA government and beekeeper associations not to proceed with eradication in the Kimberley's the disease control approach is to contain the Small Hive Beetle within the Kimberley's by movement controls gazetted on 12 May 2009 and with ongoing surveillance in the remaining part of WA. Previously the bee industry applied industry based movement controls.

5. What are the potential sources for SHB entry into the Northern Territory?

There are several potential ways that SHB may enter the Northern Territory including:

- Domestic tourists entering Northern Territory from SHB infested areas
- International tourists entering Northern Territory from SHB infested countries
- Importation of contaminated fruit or packaging from SHB infested areas
- Transport equipment contaminated with soil containing pupae from SHB infested areas
- Importation of beehives, package bees, pollen, honey, comb, wax, and equipment from SHB infested areas

- SHB spread from infested feral swarms
- Failure of disease certification and inspection systems

6. Can SHB affect feral honeybees?

Honey bees (*Apis mellifera*), including feral honeybees are susceptible to SHB.

7. Can SHB affect native bees?

There are no reports published in refereed scientific journals to indicate that native bees such as *Austroplebia* or *Trigonia* species are susceptible to SHB. Anecdotal reports that suggest that infestation can occur require further investigation.

8. Will antibiotics suppress positive test results for AFB culture testing?

Laboratory honey culture tests are used to detect bacterial spores of AFB in honey. A positive test result can be a score of 1, 2 or 3 depending on the number of spores present in the honey sample. The use of antibiotics in apiaries can reduce the number of bacterial spores in the honey sample. The use of antibiotics in Western Australian and Northern Territory apiaries is prohibited. A very sensitive test called Polymerase Chain Reaction (PCR) can be used to detect the genetic material (DNA) of the bacterial spores in honey, wax, pollen and bees. This test will be used for the planned survey with the testing being conducted at the Elizabeth Macarthur Agricultural Institute in NSW.

9. Are the current unrestricted importation of queen bees and hand picked escorts a risk of importation of bee diseases?

There is a low risk of SHB, AFB and EFB. Evidence of a negative test for AFB and EFB prior to importation would reduce the risk. While the disease status of *Nosema* in the Northern Territory is unknown, it is highly probable that *Nosema* has been imported in queen bees.

Brian Radunz
Chief Veterinary Officer
11 June 2009

Appendix 1 – Summary of Small Hive Beetle (SHB) detection and subsequent actions

2002

SHB discovered in NSW and Queensland.
Western Australia initiated surveillance for SHB.

2005

SHB detected in Victoria.

2006

Surveillance of 150 apiaries in WA did not detect SHB.

2007

Surveillance of 150 apiaries in WA did not detect SHB.

Sept 13

A beetle found in one beehive in Kununurra was submitted to Department of Agriculture and Food Western Australia (DAFWA) for identification.

- Beehives used for pollination services in Kununurra were relocated to south-west region of Western Australia and kept in isolation.

Sept 29

Beetle confirmed to be SHB (*Aethina tumida*) by CSIRO in Canberra.

- Affected apiary was quarantined with tracing of movements into and out of apiary.
- Intensive surveillance of beehives traced to south-west region detected SHB in two other apiaries. The apiaries were quarantined and all affected beehives were destroyed.

October

- A surveillance program was undertaken in Kununurra area and confirmed the presence of SHB.
- A strategy to contain the SHB to the Ord River Irrigation area and surrounding stations was commenced.
- The trace forward apiaries in the south-west region were inspected every 2 weeks during Oct and Nov, and then monitored monthly.

2008

January 14

The WA Bee Industry Consultation Committee (with representation from 6 beekeeping groups) decided that eradication of SHB from the Kununurra area was not feasible.

- Targeted surveillance for SHB in apiaries in the south-west area of Western Australia continued with no detection of SHB.
- Apiaries were released from quarantine in the south-west region following
 - a risk assessment
 - a minimum of three negative inspections for SHB
 - Discussions with SHB experts from NSW

May 23

SHB declared an animal under the *WA Agriculture and Related Resources Protection Act* for the purposes of restricting movement from the Kimberley region.

2009

March 14

Northern Territory Beekeepers Association Meeting in Darwin expressing concern that package bees from WA were permitted entry into the NT

March 18

Package bees from Western Australia were no longer permitted entry into the Northern Territory. The notice was signed on 18th March and gazetted on 25th March. A Joint Industry and Government Working Group was established to consider the future importation of bees and report to the Minister.

April 4

Northern Territory Beekeepers Association Meeting in Katherine discussed surveillance and a biosecurity plan.

April 22

Meeting 1 of working group.

April 28

Meeting 2 of working group – this meeting noted the impending declaration of a free area and that the working group considered the detail of the response to the SHB beetle incursion and subsequent surveillance and agreed that subject to gazettal of the free area a recommendation to Minister would be made to permit the importation of package bees from the SHB free and specified conditions for entry.

May 12

A SHB Free Area declared for Western Australia (other than the Kimberley region)

May 13

Meeting 3 of working group – recommends the entry of package bees from the Free Area of WA with pre-entry inspection for SHB and evidence of a negative test for AFB and EFB.

May 26

Minister for Primary Industries signed notice to permit the entry of package bees from the SHB Free Area of Western Australia into the Northern Territory under specified conditions.

June 10

Following gazettal of the notice on 10 June 2009 package bees from the SHB Free Area of Western Australia are permitted entry into the Northern Territory.

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